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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/820,529	04/08/2004	Jonathan A. Nagel	1999-0793CON	8328
26652	7590	08/09/2006	EXAMINER PHAN, HANH	
AT&T CORP. ROOM 2A207 ONE AT&T WAY BEDMINSTER, NJ 07921			ART UNIT 2613	PAPER NUMBER

DATE MAILED: 08/09/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/820,529	Applicant(s) NAGEL, JONATHAN A.	
	Examiner Hanh Phan	Art Unit 2613	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 24 May 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 10-15 and 26-32 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 10-15, 26-28 and 32 is/are rejected.
- 7) ☒ Claim(s) 29-31 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. This Office Action is responsive to the Amendment filed on 05/24/2006.

Claim Objections

2. Claims 29 and 32 are objected to because of the following informalities:

In claim 29, line 1, the phrase "The method of claim 18" should be changed to
--The method of claim 26 --.

In claim 32, line 1, the phrase "The method of claim 18" should be deleted.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 10-15 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

-Claim 10 recites the limitation "**the optical receiver**" in lines 9 and 10. There is insufficient antecedent basis for this limitation in the claim.

-Claim 13 recites the limitation "**the optical receiver**" in lines 9 and 10. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 10-12 and 26-28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Robinson et al (US Patent No. 6,404,520) in view of Way et al (US Patent No. 6,583,903).

Regarding claims 10 and 26, referring to Figure 3, Robinson teaches an optical communication system that compensates for polarization mode dispersion (PMD), comprising:

an optical source (i.e., optical source 24, Fig. 3) that transmits two or more optical signals having different optical frequency bands (col. 4, lines 44-67 and col. 5, lines 1-26); and

a first optical compensator (i.e., optical compensator PMDC 32, Fig. 3) that receives the two or more optical signals, wherein the first optical compensator is positioned at a location between the optical source and the optical receiver and defined by a ratio $L1/L2$ and wherein $L1/L2$ is less than approximately 1.5, and wherein $L1$ is the length of a first optical conduit between the optical compensator and optical source, and $L2$ is the length of the second optical conduit between the optical compensator and optical receiver (col. 5, lines 19-26).

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Robinson differs from claims 10 and 26 in that he fails to specifically teach rotating at least one polarization state of the two or more optical signals based on an error condition to compensate for PMD. Way, from the same field of endeavor, likewise teaches method and system for controlling polarization mode dispersion (Fig. 10). Way further teaches rotating at least one polarization state of the two or more optical signals based on an error condition to compensate for PMD (i.e., col. 3, lines 10-34, col. 9, lines 7-32 and col. 10, lines 13-22). Based on this teaching, it would have been obvious to one having skill in the art at the time the invention was made to incorporate the rotating at least one polarization state of the two or more optical signals based on an error condition to compensate for PMD as taught by Way in the system of Robinson. One of ordinary skill in the art would have been motivated to do this since allowing compensating polarization mode dispersion of the signal, reducing the signal error and improving the quality of the signal.

Regarding claims 12, 13, 27 and 28, the combination of Robinson and Way teaches the ratio $L1/L2$ is approximately $1.5 \geq L1/L2 \geq 0.25$ or 0.65 (As indicated in Figure 3, Robinson teaches one or several PMDCs 32 can be provided a long the length of optical fiber 28, and can be provided at several locations including proximate the transmitter 24 for providing forward compensation, in the middle of the link, proximate the receiver, or any combination thereof depending on the design of the optical communication system. Thus, limitation to location or number of PMDC 32 is not to be inferred in the present invention, col. 5, lines 19-25).

7. Claim 32 is rejected under 35 U.S.C. 103(a) as being unpatentable over Robinson et al (US Patent No. 6,404,520) in view of Way et al (US Patent No. 6,583,903) and further in view of Bruyere et al (US Patent No. 6,178,021).

Regarding claim 32, Robinson as modified by Way teaches all the aspects of the claimed invention except fails to teach a second optical PMD compensator. However, Bruyere in US Patent No. 6,178,021 teaches a second PMD compensator for compensating the polarization mode dispersion of the signal (Figures. 2-4, and from col. 3, line 56 to col. 6, line 62). Therefore, it would have been obvious to one having skill in the art at the time the invention was made to incorporate the second PMD compensator for compensating the polarization mode dispersion of the signal as taught by Bruyere in the system of Robinson modified by Way. One of ordinary skill in the art would have been motivated to do this since Bruyere suggests in from column 3, line 56 to col. 6, line 62 that using such the second PMD compensator for compensating the polarization mode dispersion of the signal and wherein the error condition is based on PMD of the first received signal have advantage of allowing compensating polarization mode dispersion of the signal, reducing the signal error and improving the quality of the signal.

Allowable Subject Matter

8. Claims 29-31 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

9. Claims 13-15 are allowed (if overcome the 112 rejection).

Response to Arguments

10. Applicant's arguments filed 05/24/2006 have been fully considered but they are not persuasive.

The applicant's arguments to claims 10-12, 26-28 and 32 are not persuasive. Claims 10, 26 and 32 are now amended. Applicant argues that the cited references fail to the limitation of **"the first optical compensator is positioned at a location between the optical source and the optical receiver and defined by a ratio $L1/L2$ and wherein $L1/L2$ is less than approximately 1.5, and wherein $L1$ is the length of a first optical conduit between the optical compensator and optical source, and $L2$ is the length of the second optical conduit between the optical compensator and optical receiver"** of the claims 10 and 26. The examiner respectfully disagrees. As indicated in Figure 3, Robinson teaches one or several PDMCs 32 can be provided a long the length of optical fiber 28, and can be provided at several locations including proximate the transmitter 24 for providing forward compensation, in the middle of the link, proximate the receiver, or any combination thereof depending on the design of the optical communication system. Thus, limitation to location or number of PMDC 32 is not to be inferred in the present invention (col. 5, lines 19-25).

Therefore, it is believed that the limitations of claims 10-12, 26-28 and 32 are still met by the combination of Robinson, Way and Bruyere, and the rejection is still maintained.

Conclusion

11. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hanh Phan whose telephone number is (571)272-3035.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jason Chan, can be reached on (571)272-3022. The fax phone number for the organization where this application or proceeding is assigned is (571)273-8300.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703)305-4700.


HANH PHAN
PRIMARY EXAMINER